

CLAIMS

WHAT IS CLAIMED IS:

1. A duct reinforcing rod and fabrication apparatus for use with a conduit and a threaded element dimensioned to fit within said conduit, said duct reinforcing rod and fabrication apparatus comprising:

means for positioning said conduit at an insertion position;

means for inserting said threaded element a predetermined distance into said conduit; and

means for deforming said conduit such that said deformation occurs at two locations on said conduit, wherein said two locations are longitudinally spaced from one another along a length of said conduit.

2. The duct reinforcing rod and fabrication apparatus according to claim 1, wherein:

said deformations occur on either side of said threaded element.

3. The duct reinforcing rod and fabrication apparatus according to claim 1, wherein:

said means for positioning positions said conduit in a vertical direction.

4. The duct reinforcing rod and fabrication apparatus according to claim 3, wherein:

said means for positioning includes a gear mechanism for selectively translating said conduit in a vertical direction and onto said threaded element, thereby inserting said threaded element within said conduit.

5. The duct reinforcing rod and fabrication apparatus according to claim 4, wherein:

said gear mechanism is a rack and pinion assembly.

6. The duct reinforcing rod and fabrication apparatus according to claim 4, wherein:

said means for deformation include a pair of crimping blocks that move in a direction substantially perpendicular to said vertical direction.

7. The duct reinforcing rod and fabrication apparatus according to claim 6, wherein:

said crimping blocks move in opposition to one another, thereby selectively bearing upon an exterior of said conduit and imprinting said deformations on said exterior.

8. The duct reinforcing rod and fabrication apparatus according to claim 1, wherein:

said means for positioning positions said conduit in a horizontal direction.

9. The duct reinforcing rod and fabrication apparatus according to claim 8, wherein:

said means for positioning includes a clamping station having a pair of clamping arms which selectively close about and positionally fix said conduit against movement.

10. The duct reinforcing rod and fabrication apparatus according to claim 9, wherein:

said clamping arms move in opposition to one another.

11. The duct reinforcing rod and fabrication apparatus according to claim 9, wherein:

said means for deformation include a crimping station having a pair of crimping arms that move in opposition to one another, thereby selectively bearing upon an exterior of said conduit and imprinting said deformations on said exterior.

12. The duct reinforcing rod and fabrication apparatus according to claim 11, wherein:

said clamping station is pneumatically actuated; and
said crimping station is pneumatically actuated.

13. The duct reinforcing rod and fabrication apparatus according to claim 11, wherein:

said means for inserting includes a linearly displacement element for pushing said threaded element into said conduit.

14. The duct reinforcing rod and fabrication apparatus according to claim 13, wherein:

said means for inserting includes a feeding device for placing said threaded element in an operative position opposite said conduit.

15. The duct reinforcing rod and fabrication apparatus according to claim 14, wherein:

said a linearly displacement element is a solenoid; and
 said feeding device is a vertically oriented feeding track that holds said threaded element therein for gravity feed to said operative position.

16. A duct reinforcing rod, comprising:

a conduit;
 a threaded element disposed within said conduit; and
 a pair of deformations, one of said pair of deformations occurring on one side of said threaded element and the other of said pair of deformations occurring on the other side of said threaded element.

17. The duct reinforcing rod according to claim 16, wherein:

said conduit is a hollow, metal conduit.

18. The duct reinforcing rod according to claim 16, wherein:

said threaded element is a nut.

19. The duct reinforcing rod according to claim 16, wherein:

said threaded element is a bolt.

20. A duct reinforcing rod, comprising:

a conduit having a longitudinally extending exterior;
 a threaded element disposed within said conduit; and
 a pair of deformations which are formed in said exterior and spaced apart from one another along said longitudinal extending exterior.